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| 10/749,942  | 12/31/2003  | Peter D. Mueller     | MP1434              | 6664             |
| 60537 7590 09/04/2008<br>BRINKS HOFER GILSON & LIONE/MARVELL<br>P.O. BOX 10395<br>CHICAGO, IL 60610 |             |                      |                     |                  |
| EXAMINER  |             |                      |                     |                  |
| ZHU, BO HUI ALVIN   |             |                      |                     |                  |
| ART UNIT  |             | PAPER NUMBER         |                     |                  |
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/749,942

**Applicant(s)**

MUELLER ET AL.

**Examiner**

BO HUI A. ZHU

**Art Unit**

2619

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 May 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6, 8-18 and 20-67 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6, 8-18 and 20-67 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/S508)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Response to Amendment***

1. The amendment filed with RCE on May 30, 2008 has been entered.

Claims 1 – 6, 8 – 18 and 20 - 67 are pending.

Claims 1 – 6, 8 – 18 and 20 - 67 are rejected.

The 112 2<sup>nd</sup> paragraph rejections of claims 1 – 6, 8 – 18 and 20 – 67 have been withdrawn in view of the amendments to the claims.

***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1 – 6, 8 – 18 and 20 – 67 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. All of the independent claims 1, 13, 25, 30, 41, 50, 56 and 62 were amended to include a new limitation “without executing a query”. Examiner has found no descriptive evidence in the original specification of the application to support for this limitation. The original specification appears to have failed to discuss any type of query execution in connection with the disclosure of the claimed invention.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1 – 3, 5, 8, 11, 13 – 16, 20, 23, 35, 30 – 33, 36, 39, 41 – 43, 45, 50 – 52, 56, and 62 – 64 are rejected under 35 U.S.C. 102(b) as being anticipated by Callway et al. (US 6,279,067).

(1) with regard to claims 1, 30, 41 and 62:

Callway et al. discloses a system and method, comprising: receiving without executing a query, at a first embedded device (10 on Fig. 2) of a plurality of embedded devices (10, 30, 40 on Fig. 2), a request to transmit data (host 10 receives interrupt request signals by continuously polling one of the slave devices; host 10 does not execute a query to every slave device) on a communications link (20 on Fig. 2) from a second embedded device (e.g. 30 on Fig. 2) of the plurality of embedded devices; and determining the identity of the second embedded device that asserted the request (column 3, lines 29 – 31), wherein the second embedded device is operable to be a controlling device when given the permission to transmit on the communications link (a device being a controlling device is interpreted as a device having permission to transmit on the bus).

(2) with regard to claims 13 and 50:

Callway et al. discloses a system and method, comprising: receiving without executing a query, at a first embedded device (10 on Fig. 2) of a plurality of embedded devices (10, 30, 40 on Fig. 2), a request to transmit data (host 10 receives interrupt request signals by continuously polling one of the slave devices; host 10 does not execute a query to every slave device) on a communications link (20 on Fig. 2) from a second embedded device (e.g. 30 on Fig. 2) of the plurality of embedded devices; a link request pin (IRQ, 32 and 42 on Fig. 2) electrically coupling the plurality of embedded devices, each of the plurality of embedded devices operable to request permission, without receiving a query, to transmit data on the communications link by activating the link request pin; wherein any one of the plurality of embedded devices is operable to be a controlling device when given the permission to transmit on the communications link (a device being a controlling device is interpreted as a device having permission to transmit on the bus).

(3) with regard to claims 25 and 56:

Callway et al. discloses a system and method, comprising: receiving without executing a query, at a first embedded device (10 on Fig. 2) of a plurality of embedded devices (10, 30, 40 on Fig. 2), a request to transmit data (host 10 receives interrupt request signals by continuously polling one of the slave devices; host 10 does not execute a query to every slave device) on a communications link (20 on Fig. 2) from a second embedded device (e.g. 30 on Fig. 2) of the plurality of embedded devices; and determining the identity of the second embedded device that asserted the request

(column 3, lines 29 – 31); and receiving a confirmation signal at the first embedded device from the requesting embedded device (column 4, lines 27 – 29; the individual IRQ flag is viewed as a confirmation signal); wherein any one of the plurality of embedded devices is operable to be a controlling device when given the permission to transmit on the communications link (a device being a controlling device is interpreted as a device having permission to transmit on the bus).

(4) with regard to claims 2 and 42:

Callway et al. further discloses that the request to transmit data on the communications link is asserted by activating a link request pin (IRQ, 32 and 42 on Fig. 2).

(5) with regard to claims 14 and 31:

Callway et al. further discloses determining which of the plurality of embedded devices asserted the request (column 3, lines 29 – 31).

(6) with regard to claims 3, 15, 16, 32, 33, 43, 51, 52, 63 and 64:

Callway et al. further discloses that determining which of the plurality of embedded devices asserted the request comprises addressing one of the plurality of embedded devices and determining whether the addressed device has asserted a confirmation signal (column 4, lines 22 – 29; the individual IRQ flag is viewed as a confirmation signal).

(7) with regard to claims 5 and 45:

Callway et al. further discloses that the confirmation signal is asserted by activating a wait pin (the IRQ pin 32 can be viewed as a wait pin), the wait pin being for data flow control wherein activation of the wait pin indicates a stop of data acceptance (activation of the IRQ pin indicates that a device would not be able to process data without attention from the CPU, see column 1, line 33 - 42).

(8) with regard to claims 8, 20 and 36:

Callway et al. further discloses the plurality of embedded devices includes at least one baseband processor device (16 on Fig. 2).

(9) with regard to claims 11, 23 and 39:

Callway et al. further discloses the controlling device is operable to transmit data on the communications link while receiving the request to transmit data on the communications link (inherent because the host 10 is operable to transmit data on the communication link with a slave device when another slave requests host's attention by asserting an interrupt request to the host).

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 4, 9, 10, 17, 21, 22, 27 – 29, 34, 37, 38, 44 and 61 are rejected under 35 U.S.C. 103(a) as being unpatentable over Callway et al. (US 6,279,067).

(1) with regard to claims 4, 17, 27, 34, 44, 61:

Callway et al. does not disclose that the controlling device addresses the plurality of embedded devices by a round-robin method. However, the Examiner takes Official Notice that the use of the round-robin method is well known and commonly used in the art. The round-robin method is desirable because it is simple and easy to implement. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the round-robin method in the system of Callway et al. for simplicity of design and implementation of the system.

(2) with regard to claims 9, 21, 37:

Callway et al. does not disclose the plurality of embedded devices includes a general purpose processor device. However, the Examiner takes Official Notice that the use of general purpose processors is a well known and commonly used in the art. It would be desirable to use general purpose processors because it would be easier to accommodate for a wide range of enhancements or variations of the basic process. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use general purpose processors in the system of Callway et al.

(3) with regard to claims 10, 22, 38:

Callway et al. does not disclose the plurality of embedded devices is in a radio telephone. However, the Examiner takes Official Notice that radio telephone is well



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known in the art. It would be desirable to implement the system of Callway et al. in a radio telephone device because it would extend the productivity and usability of the system. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine a radio telephone device with the system of Callway et al.

(4) with regard to claim 28:

Callway et al. does not disclose the communication link accommodates a data rate of at least one hundred megabits per second. However, the Examiner takes Official Notice that communication links with a data rate of at least one hundred megabits per second is well known in the art. It would be desirable to use such high speed communication link to improve processing speed and data throughput. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use a communication link at least one hundred megabits per second in the system of Callway et al.

(5) with regard to claim 29:

Callway et al. does not disclose the baseband processor device comprises a CDMA processor, WCDMA processor, Bluetooth processor, or IEEE 802.11 processor. However, the Examiner takes Official Notice that processors such as a CDMA processor is well known in the art, and it would be desirable to implement a CDMA processor into the system of Callway et al. to extend the productivity and usability of the system. Therefore, it would have been obvious to one of ordinary skill in the art at the

time of the invention to include a CDMA processor, WCDMA processor, Bluetooth processor, or IEEE 802.11 processor in the system of Callway et al.

8. Claims 6, 12, 18, 24, 26, 35, 40, 46 - 49, 53 - 55, 57 - 60 and 65 - 67 are rejected under 35 U.S.C. 103(a) as being unpatentable over Callway et al. (US 6,279,067) in view of lwata et al. (US 7,058,741).

(1) with regard to claims 6, 18, 26, 35, 46 - 49, 53 - 55, 57 - 60 and 65 - 67:

Callway et al. further discloses transferring permission to transmit data on the communications link from the controlling device to the requesting embedded device; and the permission to transmit data on the communications link comprises control of the communication link and an ability to exclusively transmit data on the communication link.

lwata et al. teaches transferring permission to transmit data on the communications link from the controlling device to the requesting embedded device; and the permission to transmit data on the communications link comprises control of the communication link and an ability to exclusively transmit data on the communication link. (column 17, lines 20 - 46).

It would have been desirable to transfer permission to transmit data on the communications link from the controlling device to the requesting embedded device; and the permission to transmit data on the communications link comprises control of the communication link and an ability to exclusively transmit data on the communication link because it would improve resource efficiency of the system by allowing sharing of the

resource in the system by different devices requesting the resource. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to include the method as taught by Iwata et al. et al. in the system of Callway et al.

(2) with regard to claims 12, 24 and 40:

Callway et al. does not disclose the controlling device is operable to determine whether to transfer permission to transmit data on the communications link to the requesting embedded device.

Iwata et al. teaches the controlling device is operable to determine whether to transfer permission to transmit data on the communications link to the requesting embedded device (522 on Fig. 5; column 17, lines 12 – 19).

It would have been desirable to be able to determine whether to transfer permission to transmit data on the communications link to the requesting embedded device because it would provide fairness for difference devices sharing resource in the system. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to include the method as taught by Iwata et al. in the system of Callway et al.

### ***Response to Arguments***

9. Applicant's arguments with respect to claims 1 – 6, 8 – 18 and 20 - 67 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BO HUI A. ZHU whose telephone number is (571)270-1086. The examiner can normally be reached on Mon-Thur 10am-6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (571)272-3088. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BZ  
Examiner  
August 25, 2008

/Hassan Kizou/  
Supervisory Patent Examiner, Art Unit 2619